

**Separate Statement  
of  
Commissioner James H. Quello**

April 2, 1997

*Re: Amendment of the Commission's Rules to Establish Part 27, the Wireless Communications Services ("WCS"), GN Docket No. 96-228.*

I agree with the determinations made in this *Memorandum Opinion and Order*. I am writing separately to emphasize that in making the decisions regarding technical performance criteria, I relied heavily, as is my usual practice, upon the analyses and recommendations of our in-house technical experts. The engineers in our Office of Engineering and Technology and in the International, Wireless, and Mass Media Bureaus reviewed the record thoroughly, including rapidly evolving technical submissions from those seeking reconsideration, and worked extensively with potential providers. The FCC's experts came to the joint conclusion that the technical parameters that we adopt herein provide the best opportunity for greatest number of potential providers of diverse communications services to participate in the auction of the frequencies designated by Congress for Wireless Communications Services. Moreover, the FCC's experts believe that these technical criteria will adequately protect services in adjacent frequency bands.

As is almost always the case, no party got everything it wanted in the final decision but I know that all received a fair hearing. Furthermore, the decision whether to participate in the upcoming auctions reposes where it properly belongs: in the business judgment of the potential bidders. Our technical decisions neither guarantee success nor preclude participation. That is as it should be. The public interest is served in a competitive bidding scenario where the Commission does not pre-select winners or losers but allows those entities that value a particular frequency most highly to bid to provide the allocated communications service(s).

Nevertheless, I would be remiss if I did not mention that I remain concerned about the repercussive negative effects of having spectrum management decisions driven by auction methodology. Since this Commission was given initially the authority to use competitive bidding while I served as Chairman, I have often reiterated my belief that auctions are a licensing method, they are not a spectrum management technique. To confuse one with the other does violence to the goals and purposes of both.

Management of the radio frequency spectrum in the public interest is one of the fundamental purposes for which this Federal Communications Commission was created.<sup>1</sup> Determining which

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<sup>1</sup> 47 U.S.C. Title 1, Communications Act of 1934, as amended (General Provisions), *passim*.

innovative new communications services are worthy of an allocation of this valuable natural resource and where in the usable radio frequency band such service should be provided is the essence of responsible spectrum management in behalf of our fellow citizens, *i.e.*, determining "what" and "where" serves the public interest by, *inter alia*, minimizing harmful radio interference.

In this particular 'Wireless Communications Service,' however, these decisions were taken out of our hands. The allocation and assignment decisions were made legislatively. Congress directed this Commission to reallocate certain frequencies to "wireless services" (delimited only by consistency with "international agreements") and to assign licenses by auction on a specific and expedited timetable.<sup>2</sup> The focus was on receipt of auction revenues into the national treasury by a date certain. The budget process rather than engineering principles drove the overarching allocation and assignment decisions. Our decisions on the interstitial technical criteria were similarly bound by the revenue-based allocation and assignment parameters.

I am not certain that any decisions that we have made in this proceeding would be different if this Commission were allowed to pursue our time-tested and proven procedures for allocating and assigning spectrum. I am certain, however, that the decisions on technical criteria were made considerably more complex by having to be made after, rather than as an integral part of, the underlying allocation decision and in a hurried manner. This is especially troublesome where, as in these bands, equipment is yet to be developed. Manufacturers are at only the very early stages of research and development. Indeed, the record reveals that the manufacturers were looking for guidance from this Commission in order to target their R&D efforts.

This is not to denigrate in any way the efforts of our technical experts or the *bona fides* of the parties to this proceeding. I am continually impressed by technical acumen and prowess of this Commission's experts. They have become quite adept at pounding square service assignment "pegs" into round allocation "holes," but it is far preferable if they are allowed to shape the allocation and assignment decisions to limit interference in keeping with sound engineering practice in the first instance.

I am not an engineer, but my twenty-three year tenure at this Federal Communications Commission and the practical experience I gained as a broadcaster in my previous career have convinced me that engineering -- and, in particular, spectrum management -- is at least as much art as science. The technical experts evaluate all the variables and develop formula for predicting the likelihood and severity of harmful radio frequency emissions. To the extent that some variables in the calculation are fixed by allocation or other decisions that do not have a strong technical basis, the formula are less flexible and reliable.

That said, I reiterate that I support the minimal technical "corrections" that we make in this *MO&O*.

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<sup>2</sup> Omnibus Consolidated Appropriations Act, 1997, P.L. 104-208, 110 Stat. 3009 (1996).

April 2, 1997

**Separate Statement  
of  
Commissioner Susan Ness**

*Re: Amendment of the Commission's Rules to Establish Part 27, the Wireless Communications Services ("WCS"), GN Docket No. 96-228.*

As we continue to authorize new services in new bands under flexible criteria, we necessarily are faced with difficult choices regarding interference -- not just in-band, but also from neighboring bands. Often the levels of permissible interference are derived by theoretical models without the benefit of experience under real world conditions.

Such is the situation in this case. Here, on reconsideration of our Wireless Communications Services Order of six weeks ago, the Commission was requested to adopt less stringent out-of-band emission limits for portable WCS transmitters to accommodate the Personal Access Communications Systems (PACS) technology. FCC engineers have examined the submitted information about the technology and that of the four applicants' digital audio radio systems, and have concluded that some relaxation of the out-of-band emission limits would be feasible without causing harmful interference to the planned DARS service.

It is with some misgiving that I vote to approve relaxation of the emissions standard before we have had a chance to further assess the interference levels on the specific systems that will provide DARS service. The United States fought hard at the 1992 World Radio Conference for the authority to allocate spectrum in the S Band for DARS. This is the only band in the United States in which this service can be provided. PACS is and can be offered in spectrum other than the 2.3 GHz WCS band, where there would be no potential interference with DARS. Adequate protection from interference is essential for satellite delivered digital audio radio. In my view, it would not be in the public interest to authorize a service and then to encumber it with harmful interference from another band.

As stated by Bellcore in the record of this proceeding, the issue is how much interference DARS can tolerate and still provide a high quality service. (Bellcore Ex Parte submitted by PPF on March 27, 1997.) Our engineering advisors have independently assessed the technical data submitted and concluded that this decision is fully consistent with a high quality and viable DARS service.

Based upon the independent analysis of the FCC engineers, I am content at this time to authorize a higher emissions level for systems meeting the specified criteria. However, if as a result of this decision satellite DARS is subject to harmful interference, I would revisit this issue and make appropriate adjustments.

April 2, 1997

**Statement of Commissioner Rachelle B. Chong,**

**Dissenting in Part**

*Re: Amendment of the Commission's Rules to Establish Part 27, the Wireless Communications Services ("WCS"), GN Docket No. 96-228, Memorandum Opinion and Order*

I am pleased to support the portion of our WCS reconsideration decision to adopt additional service interference protection for multipoint distribution service ("MDS") and the instructional television fixed service ("ITFS"). I write separately, however, to respectfully dissent from the portion of the *Memorandum Opinion and Order* adopting a less stringent out-of-band emission limit for portable WCS transmitters.<sup>1</sup>

In their joint petition, the PACS Providers Forum ("PPF") and DigiVox Corporation ("DigiVox") request that we reconsider the WCS out-of-band emission limits with respect to the dedicated satellite digital audio radio service ("DARS") band at 2320-2345 MHz. Specifically, they propose that we adopt an out-of-band emission limit of  $81 + 10 \log(p)$  dB for portable operations and  $75 + 10 \log(p)$  dB for fixed operations. PPF and DigiVox argue that these changes in the interference parameters will enable Personal Access Communications Systems ("PACS") technology to be used in the WCS band. Although my colleagues decline to grant the specific relief requested by these two parties, they nonetheless relax to some degree the out-of-band emission limits we adopted just six weeks ago in the *Report and Order*.<sup>2</sup> Specifically, the *Memorandum Opinion and Order* allows WCS portable transmitters to meet the out-of-band emission limit in the DARS band of  $93 + 10 \log(p)$  dB, provided that those transmitters meet certain technical restrictions.

Rather than developing a "compromise" interference level, I would have preferred that we simply deny the PPF and DigiVox petition. I would have preferred this approach, in part, because it is unclear to me whether the PACS technology will actually work with the less stringent out-of-band emission limits we adopt today.<sup>3</sup> I am also concerned about the haste with which the compromise was developed, due to stringent time constraints imposed

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<sup>1</sup> *Memorandum Opinion and Order*, paras. 24-33.

<sup>2</sup> *Report and Order*, FCC 97-50 (released February 19, 1997), 62 Fed.Reg. 09636 (March 3, 1997) ("*Report and Order*").

<sup>3</sup> Initially, the PACS providers indicated that their equipment could not operate in the WCS band unless we adopted the emission limits proposed in their petition of  $81 + 10 \log(p)$  dB for mobile operations and  $75 + 10 \log(p)$  dB for fixed operations. However, on March 31, 1997, one of the PACS equipment manufacturers, Hughes Network Systems, filed an *ex parte* letter that indicates that "microwave components have become available" which should allow PACs to meet the out-of-band emission limits adopted in this *Memorandum Opinion and Order*.

on us.<sup>4</sup> Finally, I note that the affected parties did not have an adequate opportunity to provide us with input on the compromise. Thus, for all of those reasons, I am reluctant to endorse a change in the carefully-crafted limits adopted in the recent *Report and Order*.

There are also equities in the situation that should have been considered. The United States government fought hard for authority to establish the DARS service at WARC '92, and I do not wish our decision today to jeopardize our considerable efforts to create a successful DARS service. Unlike the PACS providers which can operate in a number of different bands, the 2320-2345 MHz band is the *only* band authorized for DARS.<sup>5</sup> The DARS applicants already face significant technical impediments in the deployment of their service -- not the least of which is the need to coordinate their system with Canada and Mexico. Thus, it would be my preference not to place any additional burdens on the DARS providers -- especially given that the DARS auction starts today.

I note that the original out-of-band emission limit of  $110 + 10 \log (p)$  dB already reflected a compromise on the part of the DARS applicants. They had originally proposed out-of-band emission limits on the order of  $123 + 10 \log (p)$  dB for mobile operations. In my view, the Petition offers no new information to the Commission and raises no new issues that were not directly addressed by the Commission six weeks ago in the *Report and Order*. Accordingly, while this issue was a close call, on balance my preference would have been to reaffirm our original decision and to address the PPF and DigiVox petition through a waiver process. Once the DARS licensees and their system parameters are known, I believe that the Commission's ability to determine the appropriate interference limits would have been greatly enhanced. Thus, I respectfully dissent to this portion of today's decision.

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<sup>4</sup> The PPF/DigiVox petition was filed on March 11, 1997, with oppositions due March 21, 1997 and replies due March 25, 1997. We are required by law to start the WCS auction on April 15, 1997. The DARS auction was scheduled to begin today.

<sup>5</sup> PACS equipment has been authorized for use in a number of bands, including the PCS and cellular bands.